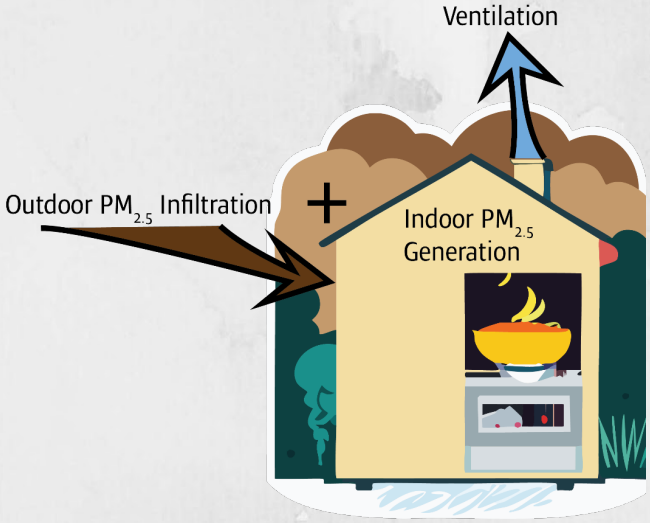
Environmental and Water Resources Engineering Seminar Series Presents:

Thursday, March 7th 2024, 3:30-4:30pm, CPE 2.218

Indoor PM2.5 Patterns in A Sample of Travis County Homes

Ansel Early

P.E., M.S. in Sustainable Systems, University of Texas at Austin, 2022
Advisor: Dr. Kerry Kinney and Dr. Atila Novoselac



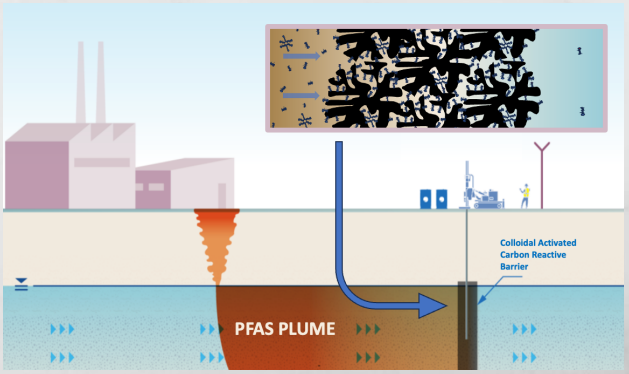
High levels of outdoor fine airborne particulate matter (PM2.5) are associated with an increased risk of multifarious health issues, including COPD, cardiovascular disease, asthma, and allergies. However, most people in the United States spend about 90% of their time indoors, meaning that their prime exposures to PM2.5 are not directly from outdoor sources. We used pilot data collected from several households in eastern Travis County to study the relationships between at-home indoor PM2.5 exposures and outdoor pollution levels, potential outdoor pollution sources, indoor sources, and occupant behaviors.

Characterizing Sorption and Competitive Sorption of PFAS to Colloidal Activated Carbon

Dayna Cline

B.S. Environmental Engineering, U.S. Military Academy, 2015
Advisor: Dr. Charles Werth

Ubiquitous in industry and firefighting due to their hydrophobicity and chemical and thermal stability, Per- and Polyfluoroalkyl Substances (PFAS) have rapidly become emerging contaminants requiring remediation in groundwater and soil throughout the world. Because a field-level method of destruction is not available, a common approach is to attempt to contain PFAS contamination via sorption onto walls of carbon. Due to the extent of PFAS contamination and the severity of health concerns stemming from exposure, engineering firms are quickly installing these walls at large scales. Yet, there are gaps in understanding the drivers and mechanics of PFAS sorption onto carbon. Using batch experiments, we can better understand the mechanics of why certain PFAS sorb better than others and what traits make a carbon more favorable. Additionally, using the Ideal Adsorbed Solution Theory (IAST), we can understand and predict how PFAS sorption will be affected by intercompetition.



Edited, original found at https://regenesis.com/eur/pfas-treatment-technologies/pfas-plume-treatment/

EWRE Seminar Committee Members: Claire Baldus, Priyanshu Gupta, Elle Henson, Mila Otegui, Zijie Zheng
Supervising Faculty: Dr. Ben Hodges